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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/719,138	02/08/2001	Hirokazu Fujino	0020-4783P	5320
2292	7590	04/13/2004	EXAMINER	
BIRCH STEWART KOLASCH & BIRCH PO BOX 747 FALLS CHURCH, VA 22040-0747			LEO, LEONARD R	
			ART UNIT	PAPER NUMBER
			3753	

DATE MAILED: 04/13/2004

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Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/719,138

Applicant(s)

FUJINO ET AL.

do 22

Examiner

Leonard R. Leo

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 29 December 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 3 and 6-9 is/are pending in the application.
- 4a) Of the above claim(s) 3 and 8 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 6, 7 and 9 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

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DETAILED ACTION

Continued Examination Under 37 CFR 1.114

A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on December 29, 2003 has been entered.

Claims 3 and 6-9 are pending, and claims 3 and 8 remain withdrawn.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claim 9 is rejected under 35 U.S.C. 103(a) as being unpatentable over Ishikawa et al (US) in view of Schuez et al.

Ishikawa et al (US) discloses all the claimed limitations except secondary grooves on the projected portions.

Schuez et al discloses a heat-transfer pipe comprising a plurality of grooves 3 and projection portions 2 having a plurality of secondary grooves 5 (Figures 6a-6e) for the purpose of improving heat exchange.

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It would have been obvious at the time the invention was made to a person having ordinary skill in the art to employ in Ishikawa et al (US) secondary grooves for the purpose of improving heat exchange as recognized by Schuez et al.

Claims 6-7 and 9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ishikawa et al (10-47880) or Sasaki et al (10-300379) in view of Schuez et al.

Ishikawa et al (10-47880) or Sasaki et al (10-300379) (Figure 6b, 6d or 7b) discloses all the claimed limitations except secondary grooves on the projected portions.

Schuez et al discloses a heat-transfer pipe comprising a plurality of grooves 3 and projection portions 2 having a plurality of secondary grooves 5 (Figures 6a-6e) for the purpose of improving heat exchange.

It would have been obvious at the time the invention was made to a person having ordinary skill in the art to employ in Ishikawa et al (10-47880) or Sasaki et al (10-300379) secondary grooves for the purpose of improving heat exchange as recognized by Schuez et al.

Regarding claims 6-7, the similar structured device of the combination of Ishikawa et al (10-47880) or Sasaki et al (10-300379) and Schuez et al is believed to be manufactured in a manner similar to applicants' claimed invention. The abstract of Ishikawa et al (10-47880) or Figure 8 of Sasaki et al (10-300379) is particularly pertinent.

Response to Arguments

The rejection under 35 U.S.C. 112, first paragraph is withdrawn.

The rejection in view of Yamamoto et al (JP 11-000713) is withdrawn.

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As demonstrated by Ishikawa et al (US), unequal widths W1 and W2 of rows of grooves 1 and 2, respectively form V-shaped patterns. The claims do not preclude a longitudinal groove between the rows.

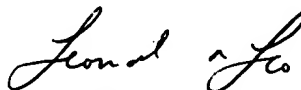
As demonstrated by Ishikawa et al (10-47880), unequal widths W1 and W2 of rows of grooves 1 and 2, respectively form V-shaped patterns. The claims do not specify the relationship of the angles of the rows of grooves or the alignment of the grooves in each row.

As demonstrated by Sasaki et al (10-300379),), unequal of rows of grooves form V-shaped patterns in Figure 6b, 6d or 7b. The claims do not specify the relationship of the angles of the rows of grooves, the alignment of the grooves in each row or preclude a longitudinal groove between the rows.

Conclusion

Any inquiry of a general nature, relating to the status of this application or clerical nature (i.e. missing or incomplete references, missing or incomplete Office actions or forms) should be directed to the Technology Center 3700 Customer Service whose telephone number is (703) 306-5648. Status of the application may also be obtained from the Internet: <http://pair.uspto.gov/cgi-bin/final/home.pl>

Any inquiry concerning this Office action should be directed to Leonard R. Leo whose telephone number is (703) 308-2611.



LEONARD R. LEO
PRIMARY EXAMINER
ART UNIT 3753

April 3, 2004